

Title (en)  
SHELL INTEGRATOR

Title (de)  
SCHALENINTEGRATOR

Title (fr)  
INTÉGRATEUR COQUILLE

Publication  
**EP 3094920 A4 20171220 (EN)**

Application  
**EP 15733328 A 20150105**

Priority  
• US 201461964520 P 20140106  
• US 2015010117 W 20150105

Abstract (en)  
[origin: WO2015103522A1] A shell integrator has a hollow transparent body with inner and outer surfaces formed as arrays of lenslets. Each lenslet of the inner surface images a common source region in the middle of the hollow body onto a respective lenslet of the outer surface. Each lenslet of the outer surface forms a virtual image of the respective lenslet of the inner surface at the common source region. One integrator has a light-guide following the surface of the hollow body from an inlet end at a central region of the surface to an outlet end at a rim of the hollow body. The light-guide inlet end is shaped to receive light from the common source region and direct such light along the light-guide. Another integrator is generally elongated, and may be semicylindrical. Any of these integrators may have a stepped surface forming a Fresnel lens.

IPC 8 full level  
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CPC (source: EP US)  
**F21V 5/045** (2013.01 - EP US); **F21V 23/0457** (2013.01 - EP US); **G02B 3/0037** (2013.01 - EP); **G02B 3/0062** (2013.01 - EP); **G02B 6/00** (2013.01 - EP); **G02B 27/0905** (2013.01 - EP); **G02B 27/0961** (2013.01 - EP); **F21V 5/008** (2013.01 - EP US); **F21Y 2113/13** (2016.08 - EP US); **F21Y 2115/10** (2016.08 - EP US)

Citation (search report)  
• [AD] WO 2012040414 A2 20120329 - LIGHT PRESCRIPTIONS INNOVATORS [US], et al  
• [A] WO 2012172510 A1 20121220 - KONINKL PHILIPS ELECTRONICS NV [NL], et al  
• [AD] US 2012113537 A1 20120510 - MINANO JUAN CARLOS [ES], et al  
• See also references of WO 2015103522A1

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**US 2015010117 W 20150105**; CN 201580011457 A 20150105; EP 15733328 A 20150105